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Near the anchored steamer were many Terns (*Sterna hirundo*), but I could not tell whether or not they live on the cliff.

The length of the cliff inhabited by the birds is about one mile. By counting the birds on a section of the cliff, we estimated the number of birds at not less than 60,000. The photographs (Pl. VII) were taken under very unfavorable circumstances, owing to foggy weather, but may help to give some idea of the abundance of the birds.

AN UNDESCRIBED FORM OF THE BLACK DUCK (*ANAS OBSCURA*).

BY WILLIAM BREWSTER.

IT is a matter of common belief among our more intelligent and observing wild-fowl gunners that two kinds of Black Ducks are found in New England, and certain of the characters by which they are thought to be separable have been mentioned, as well as briefly discussed, by writers on ornithology or field sports. To one, a comparatively small, dark race having a dusky or olivaceous bill and brownish legs, all our local or breeding birds are supposed to belong; the other, a larger, lighter-colored form with clear yellow bill and bright red legs, is known to occur only during migration or in winter. I have often been struck by these and certain other differences which will be mentioned later, and for the purpose of testing their value and significance I have brought together, with the kind assistance of several of my friends, a large series of specimens most of which were obtained in New England in autumn, winter or early spring. Among them are a dozen or more collected in late August and early September at Lake Umbagog, which almost certainly represent the form resident in summer throughout New England although I have none from any locality south of the Gulf of St. Lawrence which were taken at the *height* of the breeding season. Some of my specimens were weighed before being skinned and many of them are accompanied by notes

relating to the original coloring of their bills, legs and feet. As the more brilliant tints of these 'soft parts' fade soon after death, and eventually nearly or quite disappear, they are not available in comparisons of dried skins unless recorded by the collector soon after his birds are killed.

A careful study of this material has convinced me that the large, red-legged bird differs sufficiently from true *obscura* to stand as a distinct subspecies, which may be briefly characterized as follows:

***Anas obscura rubripes*, new subspecies. RED-LEGGED
BLACK DUCK.**

Subspecific characters.—Similar to *A. obscura* but larger; the feathers of the pileum conspicuously edged with grayish or fulvous; the dark markings on the fore neck and the sides of the head coarser, blacker and more sharply defined; the entire throat usually streaked or spotted with blackish; the tarsi and toes bright red; the bill yellow.

Type, No. 30252, ♂ ad. Collection of William Brewster, Lake Umbagog (New Hampshire shore), October 8, 1889; W. Brewster.

Habitat.—Occurring during migration or in winter on or near the Atlantic Coast from Newfoundland to Virginia (Cobbs Island); in the interior as far to the south and west as Arkansas. Summer range not definitely known but breeding specimens examined from Northern Labrador, James Bay and the west shore of Hudson Bay.

MEASUREMENTS.

		Wing.	Tarsus.	Middle toe without nail.	Culmen from base (chord).	Culmen from nostril.
<i>Anas obscura</i>	average of 7 males	10.52+	1.65—	2.20—	2.05—	1.58—
<i>A. o. rubripes</i>	" 21 "	10.99+	1.68—	2.26+	2.13—	1.66—
<i>Anas obscura</i>	average of 15 females	10.14+	1.61—	2.09—	1.93—	1.52+
<i>A. o. rubripes</i>	" 19 "	10.47+	1.60+	2.15+	2.03+	1.60—

I have had repeated opportunities for comparing the two forms when living or immediately after death. They are sufficiently unlike in respect to size and proportions, as well as in coloring, to be distinguished, under favorable conditions, at more than gunshot distance when flying, and when freshly killed and placed side by side they may be separated at a glance. The larger bird usually has the entire bill (excepting the nail) yellow, varying from

chrome to canary or sulphur yellow, the legs and toes bright red, varying from light scarlet to deep orange, the dark feathers of the pileum and nape conspicuously margined with gray or fulvous, and the throat (as well as sometimes the chin, also) profusely spotted or streaked with blackish. All the dark markings on the cheeks, throat and neck are broader, blacker and more sharply defined than in true *obscura* and they often take the form of coarse, rounded spots which are seldom if ever present on the head or neck of the smaller bird.

In typical examples of *obscura* the bill is greenish black, dusky olive, or olive green, the legs are olivaceous brown with, at most, only a tinge of reddish, the pileum and nape nearly or quite uniformly dark, the throat and chin immaculate, the markings on the neck and sides of the head fine, linear, and dusky rather than blackish. In respect to these characteristics *obscura* does not seem to vary with age or season for my series includes several young not sufficiently large and fully feathered to have been able to fly which are colored and marked precisely like specimens killed in late autumn, while breeding birds are distinguishable from the latter only by the more worn and faded appearance of their plumage. The males of both forms, however, are almost invariably larger than the females as well as more richly colored and heavily marked, especially on the head and neck; a fact which should be borne carefully in mind when specimens of the two are compared.

Both races are evidently subject to a good deal of individual or geographical variation which tends to connect them by a series of intergrading specimens. Thus I have small birds with grayish crowns or streaked throats and even one or two which, in life, apparently had yellow bills and red legs, while several of the large ones have plain black crowns or immaculate throats. I have yet to see a specimen of *obscura*, however, which possesses the coarse, rounded, deep black spots that are usually present in greater or less numbers on the neck, as well as often on the throat, of *rubripes*.

The existence of a small percentage of non-typical examples, like those just mentioned, does not necessarily affect the diagnostic value of the characters to which I have called attention.

Indeed it would be possible to contend that these aberrant or intermediate specimens are really hybrids, for in the series before me they do not exceed in number the birds (no less than nine) *which show unmistakable traces of an infusion of Mallard blood.* Since two species so obviously distinct as are the Mallard and Black Duck are connected by intergrades *known* to be hybrids, why should we not assume that the scarcely more numerous intergrades between the red-legged and brown-legged Black Ducks are also hybrids? Not that I am disposed to seriously press this argument for, however plausible it may seem, my present impression is that the forms of the Black Duck here considered are only sub-specifically distinct.

There can be no reasonable doubt that the smaller of the two is the original *Anas obscura*. This name has remained unchanged in form and uncoupled with any synonym ever since it was instituted, more than one hundred years ago, by Gmelin (Syst. Nat. I, part ii, 1788, 541), who based it on the "Dusky Duck" of Pennant. This is described (Arct. Zool., II, 564) as coming "from the province of New York" and having "a long and narrow dusky bill, tinged with blue: chin white: neck pale brown, streaked downwards with dusky lines." Pennant adds that the legs in one of his birds were "dusky, in another yellow"; but as the specimens which he examined were evidently dried skins (in the Blasius Museum) this statement, as well as that relating to the color of the bill, loses much of its apparent importance.

At Lake Umbagog, where the Black Duck breeds rather plentifully, I have not cared to incur the odium of breaking the game laws and the reproaches of my own conscience by killing birds which were sitting on their eggs or in charge of broods of tender young, but I have shot a few specimens in late August and very many during the month of September. Among these I have found only one example of *rubripes*, a nearly typical female taken on September 28, 1889. With this single exception I have never met with the red-legged form at this locality before October 8. Soon after that date it becomes common, remaining until the waters of the lake are closed by ice.

In Massachusetts, also, the locally bred birds or early migrants from the north, which we kill during September and the first half

of October, are, as far as I have observed, invariably *obscura*. Most of the representatives of this race evidently pass further southward to spend the winter, but I have three typical specimens which were shot on our seacoast (at Ipswich and Chatham) during the latter half of February, 1901.

Until very recently I had supposed that the Black Ducks which breed about the Gulf of St. Lawrence and to the northward along the eastern coast of Labrador would prove to belong to the red-legged form, but Mr. C. F. Batchelder has shown me seven specimens (all but one adult) which were collected for him in Newfoundland in June and July and which, although slightly larger than our New-England-breeding birds, are precisely similar to the latter in color and markings. A female in Mr. O. Bang's collection taken in the Straits of Belle Isle on April 25, 1900, must also be referred to *obscura*. Another, belonging to Mr. J. D. Sornborger, which, with her brood of ducklings, was captured on July 8, 1896, at Okak, on the northeastern coast of Labrador, is intermediate in certain respects between *obscura* and *rubripes*, but on the whole perhaps nearer the former.

To the red-legged race I can unhesitatingly refer only four of the breeding Black Ducks which I have examined. One of these (a female) was taken by Mr. L. M. Turner on July 1, 1884, at Ungava, Northern Labrador; another (unsexed and without date) by Mr. John McKensie at Moose Factory on James Bay; a third (represented by only the head and wing and bearing no sex mark but evidently a female, for it was "with young") by Mr. C. Drexler, on June 19, 1860, at Cape Hope, Severn River; the fourth (a male) by Mr. E. A. Preble, on July 28, 1900, at Fort Churchill;—the two localities last named being on the western shores of Hudson Bay. Mr. Preble's specimen is in the collection of the Biological Survey while the others belong to the National Museum. All four of these birds are in poor condition for comparison. Two of them were moulting, and the plumage of the other two is worn and faded, while that of the Moose Factory skin is also strongly tinged with rusty chestnut—a mere superficial stain, apparently. Nevertheless they show satisfactorily most of the essential characters of *rubripes*. In respect to size and the character and distribution of the black markings on the

head and neck they are quite typical of that form. The original coloring of the soft parts is not noted on any of the labels, but that of the legs in the three specimens which still possess these appendages was apparently bright red. As would be expected, the light edging on the feathers of the pileum is much narrower and less conspicuous than in birds in fresh winter plumage.

From this evidence it seems reasonably safe to assume that the breeding range of true *obscura* extends, coastwise, to the north and east at least as far as Newfoundland and Southern Labrador and that throughout this maritime belt, as well as in New England and to the southward, *rubripes* occurs only during migration or in winter. The summer distribution of the latter remains to be definitely ascertained, but besides occupying the shores of Hudson Bay and those of northern Labrador it probably frequents more or less of the vast interior region lying between the points just mentioned and the St. Lawrence River. The frequency of its occurrence in late autumn at Lake Umbagog indicates that a good many of the birds which breed about Hudson Bay or to the southward take the shortest possible route to their winter quarters on the coast of New England. Others, no doubt, move directly southward for there is a typical red-legged bird in the Museum of Comparative Zoölogy which was taken in Mississippi County, Arkansas, on Nov. 5, 1887.¹ Those which pass their summers in northern Labrador probably follow the Atlantic coast line during migration for Mr. Batchelder has a specimen of *rubripes* which was shot at Cuslett, Newfoundland, on November 6, 1890.

It is interesting to note that in respect to one of the more essential of its distinguishing characters — viz., the immaculate buffy throat — the more southern of the forms just considered shows a slight but significant approach to the Black Duck of Florida (*Anas fulvigula*) which has not only the entire throat, but also the jugulum and the greater part of the cheeks, entirely free from markings.

¹ It is probable that a large proportion of the birds which occur in autumn or winter in the Mississippi Valley and about the Great Lakes belong to the form *rubripes* but the only Black Duck of any kind that I have seen from this region is the one above mentioned.